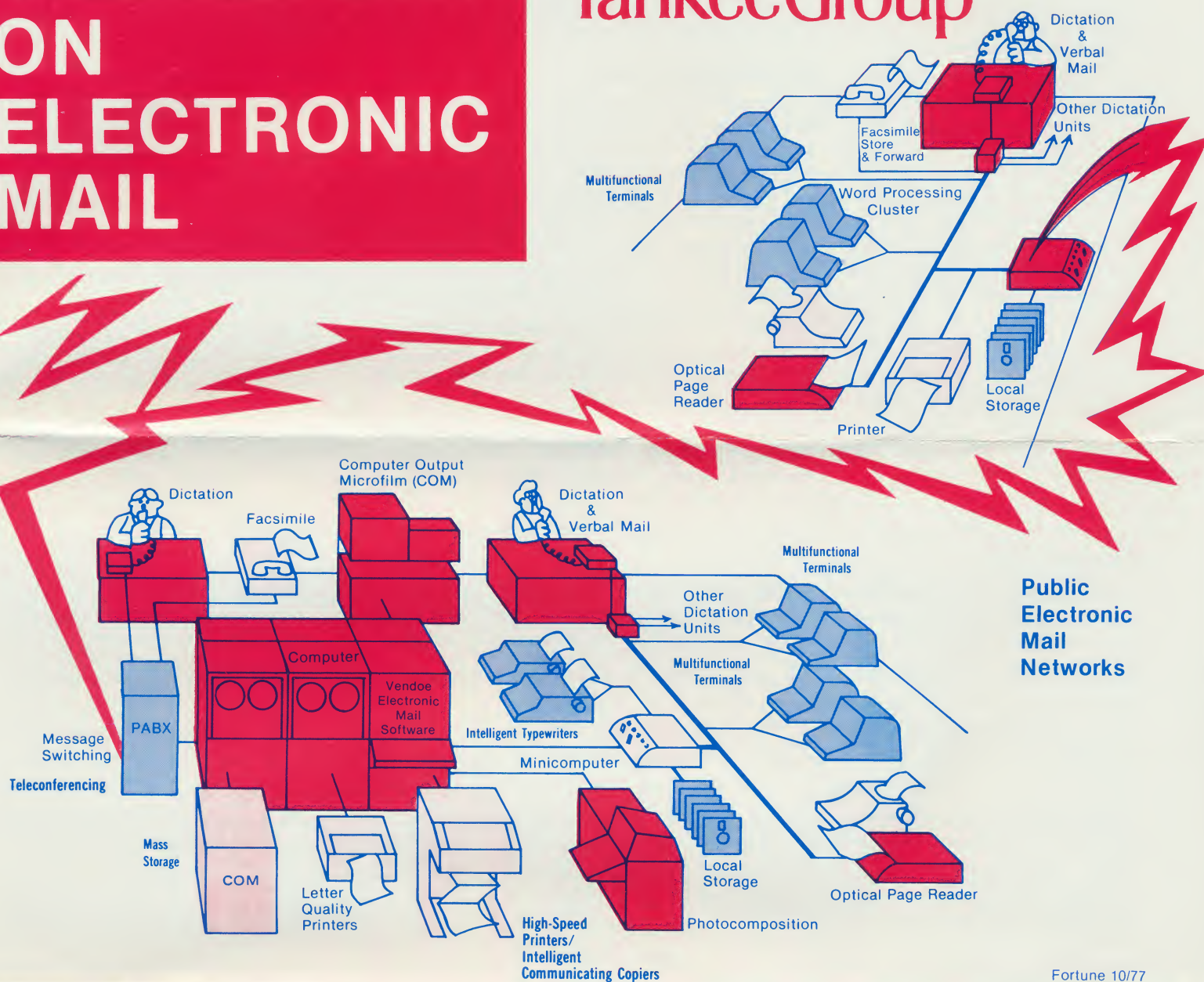


THE REPORT ON ELECTRONIC MAIL

the
YankeeGroup



Fortune 10/77

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BASIC 333 PAGE REPORT PLUS 4 QUARTERLY UPDATES

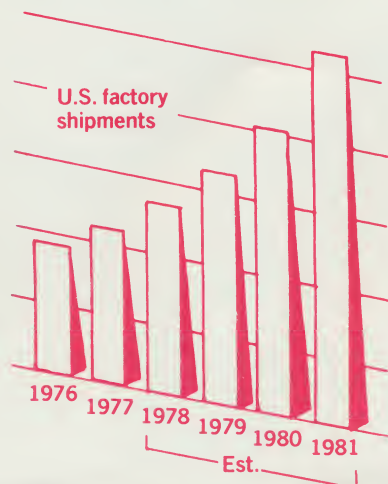
Phase I of electronic mail - INTRACOMPANY applications - is off and running - **computer based message services, facsimile, even communicating word processing.** But even as Phase I is evolving, Phase II of electronic mail - INTERCOMPANY uses - are becoming suddenly cost effective. Examples: Rolm, Wang.

The common carriers - XEROX XTEN, AT&T Advanced Communications Service, GTE Telenet - will **reduce** the cost of electronic mail and **increase the bandwidth** by providing digital intercompany backbones.

Yankee Group research indicates that 347 of the FOR-TUNE 500 will have an electronic mail system up and running by 1983. Electronic mail is the **single largest new opportunity** in communications and terminals.

THE REPORT ON ELECTRONIC MAIL not only follows this growth market — it leads it. The Yankee Group does **ORIGINAL RESEARCH** each quarter on markets, case studies, and new technologies. **Our strength is our data base.** We know what users are doing - and why. The basic study, **THE REPORT ON ELECTRONIC MAIL**, is 333 pages. The report is updated quarterly to keep our subscribers abreast of current developments. Things are happening too quickly not to.

HOW FACSIMILE IS TAKING OFF



DATA: YANKEE GROUP
BUSINESS WEEK

Market Analysis:

What is the **market share** for fax, word/data processing terminals, and computer switches? Who owns what part of the market? Which industry segments and which applications are showing the strongest growth? Who is making a profit and what features do users want?

Market Analysis: CBMS

What is the size of the market for **computer based message systems**. How many are out there? What kind of mini's are used? Terminals? How many messages per day? What kinds of data bases are tied in? How? What are the human interface problems? How is retrieval handled? What are the line costs? The hardware costs? Software? How is cost/benefit analysis done? What is the dollar volume of systems to be installed by 1983?

In facsimile, the leadership **technology is Japan's** — Matsushita, Fujitsu, Nippon T&T, Cannon, Hitachi, Oki, Ricoh, Toshiba, etc. The internal Japanese market peaked in 1976 and has forced the Japanese to search for entry vehicles in the U.S. What is the technology and what are the costs of entry? How will Xerox, 3M, and Graphic Sciences respond to the Panafax MU1200? UF 20? UF 340? How does the GSI 5100 compare with the Rapicom R100? What is the size and shape of the Japanese facsimile market.

What and where is the need for a facsimile store and forward switch? How many? When?

Case Study: Computer Based Message Systems

Cook Industries, the U.S.'s largest grain exporter ties its Memphis headquarters with all its offices — including 14 foreign offices — with its **computer based** electronic mail system, using a 370/158 and store/forward message switchers (NOVA 1200) in Hong Kong, Memphis, and Paris. Cook uses a **single terminal** to serve the users for message sending, receiving, time sharing, accessing commodity trading information, inquiry response and data entry.

How many others wish to use their terminals for these multiple applications?

Case Study: DEC

Digital Equipment Corporation is currently installing new message nodes in Maynard and Geneva, having outgrown its present internal system. The message system will include two electronic mail nodes and from them, CRT electronic mail terminals. Shortly thereafter, it is DEC's plan to integrate word processing terminals to this communications net. DEC foresees a cost eventually of \$.20/message.

Before electronic mail must come communications. And while the price of electronics has gone down, the tariffs of the traditional common carriers have gone up. But new services, like XTEN, offer **more** bandwidth, at lower cost/page.

The most promising and innovative technology today is **Packet Switching**. Some firms are instituting their own private packet networks, while others are successfully leasing public packet networks - such as Telenet. Packet switching can combine data with electronic mail and reduce the cost of both.

What effect will ACS have on the electronic mail market? Xerox XTEN?

Optical Character Reading is about to make a resurgence in both facsimile and word processing. Because of microprocessor technology, OCR is now a viable technical alternative in some facsimile and W.P. applications. These hybrid devices will be cost effective and open new markets for both types of products.

Office oriented information systems are being offered which are really electronic mail equivalents of word processing with computer interaction. They allow text editing, correct spelling errors, allow for **electronic filing** and retrieval. Text and line graphics can be mixed and used together. Output can be on hard-copy terminals, printers and photocomposition devices. Messages can be sent to any number of recipients in the same office or across the country. Harbinger or laboratory curiosity?

Lasers and non impact printers are changing the elements of scanner and recorder economics and quality. The Xerox 9700 and the IBM ink jet printer 66/40 are two high quality output mechanisms which will influence the next generation of fax.

Tymnet is a **packet switched network** which operates much like a private message system but it is actually a certified common carrier. The Tymnet network has now evolved into a 200 node system and some users are finding it **cost effective** to use as a basis of their electronic mail system. ITT's Com/Pak is a switched data communications service that allows **incompatible computers** and terminals to communicate with each other regardless of the manufacturer. Also a packet switched system, it is a nationwide network of ten switching centers in twenty four cities, connected by leased lines. A user accesses his computer to the Com/Pak computer node and dials in identification and destination information. The Com/Pak system packetizes, switches, error detects and re-assembles. The data is then transmitted in its **proper code, speed, and protocol**.

What is the market for such packet systems?

What are the proposed CCITT standards and why are they going to be important?

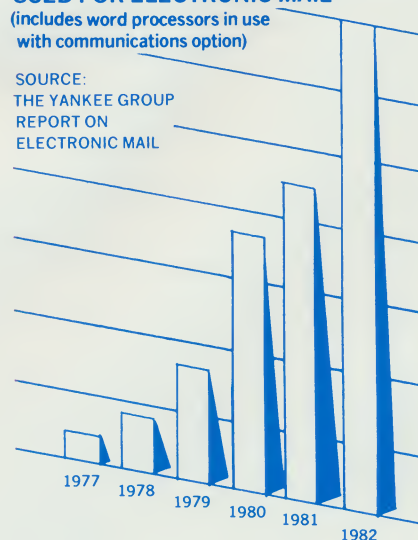
The French PTT recently issued an RFP for 1.1 million fax devices. Subscribers to The Yankee Group REPORT ON ELECTRONIC MAIL not only heard about it weeks before anyone else was aware of it, but they received an **original copy of the RFP** and, in some cases, were able to respond. Are the French serious? What is the major implication of a production run of this size? Which four firms were awarded design contracts?

Will these low cost units be exported to the U.S.? At what cost?

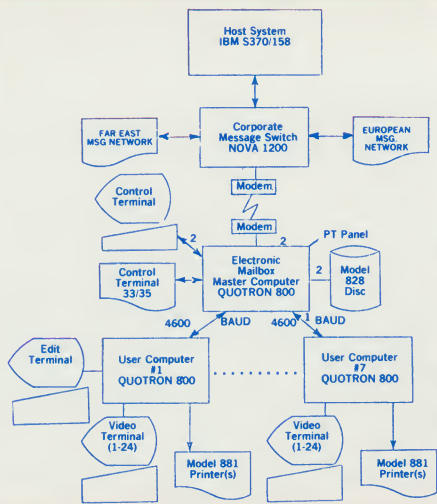
TOTAL POPULATION OF TERMINALS USED FOR ELECTRONIC MAIL

(includes word processors in use with communications option)

SOURCE:
THE YANKEE GROUP
REPORT ON
ELECTRONIC MAIL



Case Study: Cook Industries



Case Study: Citibank

Citibank's approach to electronic mail is absolutely unique. While other firms attempt to justify electronic mail, word processing and computer based message services by speeding cash flow, reducing secretarial labor, etc. Citibank's goal is distinctive: **increase managerial span of control.**

It is Citibank's conviction that electronic mail and the automated office will allow management to increase their present average control span from 7:1 to 8:1 or even 9:1. What are other banks doing?

International calls from the United States to Europe have gone from 7 million in 1970 to over 30 million in 1978. How has the amount of international facsimile and international electronic mail kept pace?

RCA's market share in international telex has slipped from 90% (1957) to 35% (1976). How could future international electronic mail further erode this market? What about international barriers to data movement? Will Xerox's involvement with W.U.I. speed this?

In 1980-81, Satellite Business Systems will be offering a fully integrated voice-data-image satellite digital transmission system whereby **large users** and **user groups** will be able to send high volume electronic mail. Users will have an option of grabbing wideband capacity on a demand basis and thereby reducing their electronic mail cost to under \$.04/transmitted page. Preliminary but intensive SBS studies demonstrate significant increases in earnings for participating companies. Some of the companies studied by SBS include Texaco, Montgomery Ward and North American Rockwell.

What are these internal SBS studies? Where are they flawed? What is the need for **teleconferencing**? Is Xerox XTEN more cost effective?

Satellite Business Systems is spearheading a marketing effort to convince America's largest companies that the use of electronic mail can drastically **increase their profitability**. It needs a family of fax devices to handle the volume of 30 fax pages per minute. Who will build such devices, what is the market potential and what will be the selling price? Will IBM, who understands the potential of end to end digital capacity-on-demand transmission, enter this market and with what offerings?

The U.S. Postal Service has one overwhelming strength — **distribution** and one overwhelming weakness - **transmission**. Under what set of political circumstances will the USPS get into electronic mail and what device markets would that stimulate?

What is the status of the USPS R&D projects? ECOM?

Exxon Enterprises has entered the **low cost word processing** market (with QYX already own Vydec). Will its strategy emulate that of another of its holdings, QWIP Systems?

Subscribers to the Report on Electronic Mail knew about the five different QYX models six months before the first public announcement.

How many salesmen does QWIP have? What is their quota? How many meet quota? What new products is QWIP looking for?

How do users compare the QWIP units with Xerox?

What is the market for **sub minute facsimile** today? Who are the customers and what will be the size of those markets, by manufacturer by 1985?

Which industries use what proportion of the sub minute fax market? How is this changing? What new digital fax products will Xerox introduce in 1979? IBM in 1980?

Market Analysis: Communicating Word Processors

Although 90% of the current Word Processors installed today are truly standalone — and offer no communications capability - virtually **all** of the newest models offer this option. But who is going to pick up this option?

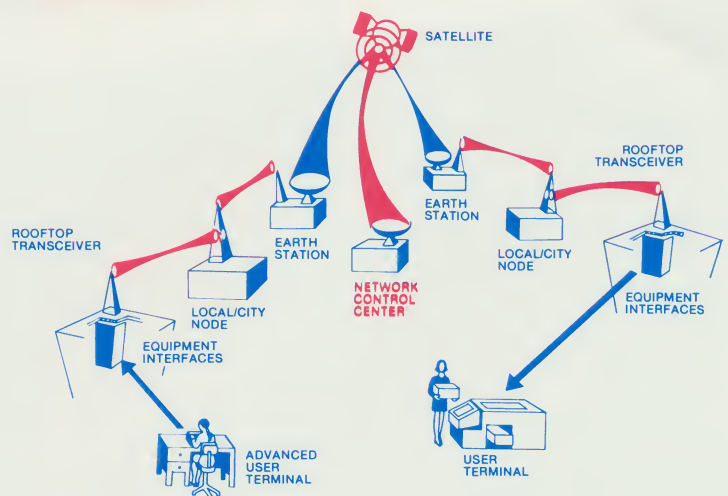
The major problem: Most users are having enough trouble handling just the word processing alone - the **electronic mail** application is just going to have to wait — for awhile. But when and where is it coming?

The second problem: **Intermachine compatibility** - or incompatibility. How will innovations like intelligent PABX's or the **Advanced Communications Service** solve this. How will Xerox XTEN handle storage, buffering and speed/code conversion.

The third problem; **applications** for communicating word processing - what are those applications today? Tomorrow? How big is this market? How big is it going to be? Who has what market share?

Equitable Life, The Department of the Army, and Connecticut Mutual are three organizations investigating **electronic mail systems**. The Report discusses what they will be sending, what their costs are, what applications are cost effective and what bench marks each of the firms is using.

Xerox XTEN Electronic Mail Network



The economic argument for Electronic Mail: overwhelming.

The benefits: Significant, short term, Major, long term.

The Implementation: Difficult. And Hazardous.

Even so, Electronic Mail is the **one part** of advanced office automation that makes sense today; it can be **cost-effective immediately** and can catalyze **increased management productivity** dramatically.

Basically, all companies are in the same business: making money. Some of the companies - **Digital Equipment, General Electric, Travelers** - recognize that the ability to move information electronically is a **DISTINCTIVE COMPETENCE** - and this unique competence will give them a **leg-up** on their competition and in their industry.

The Report on Electronic Mail. We know the field cold. It is **our** distinctive competence. We know the products that are required by specific market segments; we know the users and their applications; we know which users are leading the way in implementation and development...and which systems will be adopted by other companies.

The Report on Electronic Mail is written for a sophisticated audience. Our goal is to present the reality of electronic mail - not to simply extrapolate numbers. We present this reality in a number of ways - one of which is in-depth **case studies**.

Case studies allow our readers to understand trends before they are regarded as trends. It has been our experience that a limited number of companies are catalysts in the area of electronic mail use. We track their progress, discuss the internal justification they used, and report their expected results.

The Report on Electronic Mail has been in the forefront of examining integrated virtual office communications networks. We reported and analyzed XTEN some six months before Xerox announced the service and we were equally far in advance on Bell's Advanced Communications Service. We think you will find The Report on Electronic Mail invaluable.

**the
YankeeGroup**

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CUT AND MAIL